# 2.0 DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action (Alternative I, the Proposed Projects) and subject of this EA is the Implementation of the Land Use Plan for Fort Detrick, Maryland. This is comprised of a number of projects for construction and operation of new facilities and infrastructural improvements within the Installation which will allow USAG and their tenants to meet respective mission requirements.

This Section provides background information on Fort Detrick in Sections 2.1 through 2.4, including the location, organization, and history of the Installation and a discussion of current operations (see Section 4.0 for detailed information on the Installation's existing environmental attributes). Following this introduction, Section 2.5 describes the **Proposed Projects** comprising the Proposed Action. Section 2.5 also includes descriptions of additional projects that are not part of the Proposed Action: **Approved Projects** currently under construction or soon to be constructed (completed NEPA requirements); **Concurrent Projects** undergoing separate, concurrent NEPA analyses; and **Conceptual Projects** which are under study (see Section 1.4). Photographs of some of the construction sites are included in Appendix B. Sections 2.6 and 2.7 discuss regulatory requirements that provide mechanisms for mitigation of impacts during the construction and operational phases of the Proposed Projects.

Descriptions of projects outside the Proposed Action are intended to provide a meaningful estimate of future baseline conditions, such that the collective environmental impacts (i.e., cumulative impacts) of all the projects can be determined. Environmental impacts of the projects described in this EA that are not part of the Proposed Action per se, are undergoing or will undergo separate, more detailed NEPA analyses in EAs or EISs.

## 2.1 LOCATION OF THE INSTALLATION

Fort Detrick is situated in central Maryland approximately 45 miles west of Baltimore and 45 miles northwest of Washington, DC Interstate 70 (I-70), Interstate 270 (I-270), and U.S. Route 15 are the three major routes which provide access to the Installation (see Figure 2-1). The Installation encompasses 1,143 acres divided into three separate parcels of land identified as Areas A, B, and C (Restoration Advisory Board [RAB], 2003). The Installation is located in the northwest portion of the City of Frederick, Frederick County, Maryland (see Figure 2-2). The City of Frederick, the largest city in Frederick County and the second largest city in population and land area in Maryland, serves as the county seat (City of Frederick Planning Department, 2002). The majority of the area surrounding Fort Detrick is urban. As the largest county in Maryland, Frederick County covers 665 square miles (City of Frederick Planning Department, 2002).

## 2.2 ORGANIZATION OF THE INSTALLATION

Fort Detrick is a U.S. Army Installation which currently supports 34 on-site tenant organizations (Fort Detrick Public Affairs Office, 2003a; Fort Detrick Public Affairs Office, 2003b). The USAG is responsible for providing daily operations support and infrastructure for the tenants at Fort Detrick. USAG has recently undergone reorganization and currently consists of two major directorates and three major offices: the Directorate of Installation Services (DIS); Directorate of Community Services (DCS); Resource Management Office (RMO); Security, Plans, Operations

Force Protection Office (SPOFP); and the Safety, Environment and Integrated Planning Office (SEIPO).

Support services and operations at Fort Detrick are primarily the responsibility of the DIS and the DCS. Interservice Support Agreements (ISSA) between tenants and the USAG detail the support services required by individual tenants. Responsibilities of the DIS include overall facility and infrastructure planning, construction, engineering, maintenance, utilities, transportation, mail, freight, government vehicle, and supply management. Buildings on the Installation are maintained by DIS with the exception of the NCI-Frederick.

The DCS plans, implements, and operates military personnel programs for the Installation, including the Morale, Welfare, and Recreation (MWR) program and a variety of activities that ensure readiness, professional and personal growth. The DCS also plans, directs, and coordinates the operations of Installation housing resources.

As a result of the reorganization of the USAG, the RMO (formerly the Directorate of Management Support) is now responsible for the integration of all resources found on the Installation including fiscal, physical, and human resources (USAG, 2003a). The U.S. Army Medical Information Systems and Services Agency under USAMRMC provides support to the Army Medical Department and activities of the Office of the Surgeon General of the Army. The U.S. Army Medical Information Systems and Services Agency (USAMISSA) also maintains the Installation-wide electronic mail system and serves as a Defense Data Network (DDN) host. The SPOFP provides security, intelligence, force protection, as well as fire and medical emergency service (USAG, 2003a).

The SEIPO ensures that all Federal, Army, state, Installation, and local, regulations and policies concerning health, safety, and the environment are complied with and that necessary permits are obtained (Fort Detrick Environmental Office, 2003) (see Appendix C and Appendix D).

NCI-Frederick is a legally separate entity that occupies approximately 68 acres and approximately over 100 structures on Area A. NCI-Frederick assumed the operation and maintenance of many former biological warfare research buildings in 1972. The USAG has no jurisdiction over NCI-Frederick, however, USAG provides NCI-Frederick with the necessary utilities and solid waste management (e.g., sewer, water) (Covert, 2000; NCI-Frederick, 2002; NCI-Frederick, 2003).

## 2.3 HISTORY OF THE INSTALLATION

Frederick County opened a small municipal airfield on 90 acres of land north of the City of Frederick in 1929. The airfield was leased to the Maryland National Guard in 1931 for a summer training camp. The field was named Detrick Field in honor of Major Frederick Lewis Detrick, a Frederick native, and World War I (WWI) veteran. The Army Air Corps leased the property to train military pilots in 1940 and abandoned the airfield after mobilization for World War ll (WWII) began. President Roosevelt established the U.S. Biological Warfare Program in 1941 and in 1943 the Army Chemical Warfare Service purchased Detrick Field from the City of Frederick. The site was dedicated to research and development of biological warfare techniques and agents during WWII. By 1945, Camp Detrick had 240 officers and 1,530 enlisted personnel (Covert, 2000).

Camp Detrick was designated a permanent Federal Installation shortly after WWII. In 1956, Camp Detrick was formally designated as Fort Detrick following the purchase of Area C (current location of the Fort Detrick water and wastewater treatment plants) and Area B (outdoor test area) in 1944. The remaining portion of what is now known as Area A was purchased between 1946 and 1952. Following the discontinuation of the offensive biological warfare research program in 1969, former biological research facilities were converted to either biomedical research facilities or administrative facilities. In 1972, a new cancer research mission was established at Fort Detrick with the arrival of the NCI-Frederick (Covert, 2000). Fort Detrick was incorporated into the City of Frederick in 1984 (Fort Detrick Standard, 2002). Fort Detrick is the largest employer in Frederick County (City of Frederick Planning Department, 2002). Through the years, permanent buildings have replaced many of the temporary WWII structures. According to recent real estate records, there are approximately 317 office buildings and 155 homes located at Fort Detrick (DIS, 2003).

## 2.4 CURRENT OPERATIONS

The primary missions at Fort Detrick are biomedical research and development, medical logistics and materiel management, and global Department of Defense (DoD) telecommunications. Figure 2-3 provides the proposed mission land use allocations for Area A. Fort Detrick supports 34 tenant activities. Table 2-1 identifies all of the tenant organizations at Fort Detrick and provides a brief description of their associated missions and/or operations. A brief overview of the primary activities and operations conducted at Fort Detrick are provided in the following sections.

### 2.4.1 Research And Development

After the termination of the offensive biological warfare research program at Fort Detrick, the mission of some tenants and activities on the Installation shifted into other research and development areas. U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), USDA, NCI-Frederick, and U.S. Army Center for Environmental Health Research (USACEHR) conduct the majority of the research and development activities at Fort Detrick. USAG assists activities on the Installation in meeting the special engineering and safety requirements of research and development facilities.

U.S. Army Medical Research and Materiel Command

USAMRMC is a major subordinate command of U.S. Army Medical Command (MEDCOM). The primary function of USAMRMC is the life cycle management of medical materiel for the DA. As a part of its mission, the command conducts research and development activities at military research facilities and through hundreds of contracts and agreements with universities, institutions, and industry. USAMRIID and USACEHR are subordinate activities of USAMRMC and are also headquartered at Fort Detrick. USAMRIID conducts biological and infectious defense research to develop strategies, products, information, procedures, and training for medical defense against biological warfare agents and naturally occurring infectious diseases of military importance. USAMRIID occupies approximately 362,129 square feet (sf) in ten separate facilities (Federline, 2003a). The research program at USAMRIID is conducted in two primary facilities: Building 1425 (238,525 sf of laboratory space) and Building 1412 (73,920 sf of laboratory space). The facilities occupied by USAMRIID contain animal support areas

**Table 2-1. Current Fort Detrick Tenants and Their Associated Missions/Operations.**

| |
|---|
| ***1108th U.S. Signal Battalion***<br>The 1108th Signal Battalion provides command, control, communications, computer and visual information systems for the DoD, and other Federal agencies supporting the warfighter. The 1108th Signal Battalion is served by the 1110th and 1111th Signal Battalions. |
| ***1110th U.S. Signal Battalion***<br>The mission of the 1110th Signal Battalion, a subordinate unit of the 1108th Signal Battalion, is to operate and maintain major communication systems that are the backbone of the worldwide Defense Communications System. |
| ***1111th U.S. Signal Battalion***<br>The 1111th Signal Battalion, a subordinate unit of the 1108th Signal Battalion, plans, installs, operates, maintains and protects command, control, communications, computer and visual information systems in support of the combatant commanders, Alternate Joint Communications Center, DoD, and non-DOD agencies during war and peacetime. |
| ***6th Medical Logistics Management Center (6MLMC)***<br>The 6MLMC is a multi-component unit to provide centralized information management of medical (Class VIII) materiel, medical equipment maintenance, and blood to deployed forces. |
| ***Air Force Medical Evaluation Support Activity (AFMESA)***<br>The mission of AFMESA is to assess and integrate emerging U.S. Air Force (USAF), Joint, and commercial medical technologies into the Air Force Medical Service (AFMS) through realistic military utility assessments and demonstrations. AFMESA is responsible for operations facilitating rapid assessment and fielding of new technologies for medical providers. |
| ***Armed Forces Medical Intelligence Center (AFMIC)***<br>As the sole DoD producer of medical intelligence, AFMIC provides all-source intelligence on worldwide infectious diseases and environmental health risks, foreign military and civilian health care systems and infrastructure, and foreign biomedical developments and life science technologies of military medical significance. |
| ***Barquist Army Health Care Facility***<br>The health clinic at the Barquist Army Health Care Facility (Building 1434) provides general medical care, including pharmacy, laboratory, and x-ray services, to active duty military, military retirees, and family members. |
| ***Chemical Biological Medical Systems (CBMS) Project Management Office***<br>CBMS-Project Management Office provides the development and production of Food and Drug Administration (FDA) licensed biological and chemical medical products as well as the management of the Joint Vaccine Acquisition Program (JVAP) and the Medical Identification and Treatment Systems (MITS). |
| ***Company A, 1st Satellite Control (SATCON) Battalion***<br>Company A, 1st SATCON Battalion, U.S. Army Space Command (CONUS) conducts day-to-day satellite network control actions. Company A control functions include satellite monitoring, satellite payload control, computer-aided telecommunications and control of Earth Terminals worldwide. This facility also serves as a test bed for new equipment testing, enhancements to existing systems and software upgrades for Army Space Command facilities throughout the world. |
| ***Company B, 4thLight Armored Reconnaissance Battalion, U.S. Marine Corps Reserve***<br>Company B supports the Marine Division in shaping the battlefield and developing the operational situation. The company is tasked with the mission of conducting reconnaissance, security, and limited offensive and delaying operations that exploit mobility and fire power. |
| ***Defense Commissary Agency (DeCA)***<br>DeCA operates a worldwide system of commissaries providing quality groceries at cost plus a five percent surcharge to active-duty military members, retirees, members of the Reserve and National Guard and their families. This valued part of the military's compensation package improves quality of life, aids in retaining qualified people on active duty, helps maintain morale, and fulfills prior commitments made to retirees. |

**Table 2-1. Current Fort Detrick Tenants and Their Associated Missions/Operations (con't).**

| |
|---|
| ***Defense Contract Management Agency (DCMA)***<br>The DCMA provides acquisition and focused logistics support to the United States Armed Forces in peace and war continuously and globally. |
| ***Dental Clinic***<br>The dental clinic is currently located in Building 1434, the Barquist Army Health Care Facility, and provides dental services to active duty military personnel and their families. |
| ***Detachment 1, 301st Signal Company***<br>The PFC Raymond Flair Reserve Center is located on Rocky Springs Road at the northern boundary of Fort Detrick's Area B. It serves two major units including Company B, 4th Light Armored Reconnaissance Battalion, U.S. Marine Corps Reserve, and as a facility for the organization, administration and training of the Detachment 1, 301st Signal Company (Cable and Wire) U.S. Army Reserve. The 301st Signal Company is part of the 99th Regional Support Command that is located in Oakdale, PA. |
| ***Expeditionary Operations Training and Exercises (Formerly WAR-MED)***<br>The Expeditionary Operations Training and Exercises mission is to design, validate, and document contingency medical systems using modeling and simulation tools to determine the most appropriate mix of personnel, equipment, and training for timely, cost-effective care, and predicting optimal patient outcomes. It develops and updates Air Force Surgeon General medical readiness doctrine, policy, and clinical guidelines. It also facilitates the development and maintenance of training requirements and planning modalities for the Air Force Medical Service in support of deployed forces and returning casualties. |
| ***Joint Medical Logistics Functional Development Center (JMLFDC)***<br>Joint Medical Logistics Functional Development Center ensures that functional activity program management initiatives are evolved, coordinated, and tightly integrated with the applicable activities of the Defense Medical Standardization Board, United States Army Medical Materiel Agency, Naval Medical Logistics Command and Air Force Medical Logistics Office. The mission of JMLFDC is to support functional activity management on behalf of the Defense Medical Logistics Standard Support (DMLSS) Program employing expert medical logisticians and analysts from the U.S. Army, U.S. Navy, and U.S. Air Force. Joint Medical Logistics Functional Development Center develops functional process improvements (with special focus on modeling and simulation), develops data and process models, maintains the medical logistics functional architecture, defines functional requirements for the DMLSS Automatic Information System (AIS), develops implementation plans, identifies potential opportunities for updates to the Functional Economic Analysis (for the Medical Logistics Service Program Managers), validates the DMLSS AIS functional performance, and ensures compliance with directives governing functional activity program management. |
| ***Joint Readiness Clinical Advisory Board (JRCAB)***<br>JRCAB, formerly known as the Defense Medical Standardization Board, standardizes medical materiel for use by all branches of the military for war readiness requirements and peace time operations, provides clinical, technical, and logistical expertise to ensure quality medical materiel is available, and achieves maximum standardization of deployable medical systems with the Military Services. |
| ***Medical Communications for Combat Casualty Care (MC4)***<br>The mission of MC4 is to develop and deploy to the Army an integrated family of medical communications and automated information systems, to enhance Army and Joint combat casualty care and giving Commanders at all echelons visibility of their medical situation as well as the status of their troops during peacetime and war. |
| ***National Cancer Institute at Frederick (NCI-Frederick)***<br>NCI-Frederick conducts research and development activities designed to prevent and cure human cancer, Acquired-Immune Deficiency Syndrome (AIDS), and related diseases. |

**Table 2-1. Current Fort Detrick Tenants and Their Associated Missions/Operations (con't).**

| |
|---|
| ***Post Exchange (AAFES)***<br>The Post Exchange, directed by the Army and Air Force Exchange Service (AAFES), operates among a worldwide system of stores providing quality merchandise and services to active-duty military members, retirees, members of the Reserve and National Guard and their families, and generates funds for morale, welfare and recreation activities capital programs that benefit the members of the Armed Forces. |
| ***Technology Applications Office (TAO)***<br>TAO is a functionally integrated, task force organization designed to provide centralized, lifecycle management, engineering, fielding, and operation of information management programs supporting DA-approved programs. TAO also provides operational support in identifying, developing, testing, and evaluating emerging technologies for inoperability and integration into information management equipment and systems. |
| ***U.S. Air Force Medical Logistics Office (AFMLO)***<br>The mission of the AFMLO is to integrate leadership and logistics changes to accomplish future challenges of health care during peacetime and war. |
| ***U.S. Army Center for Environmental Health Research (USACEHR)***<br>USACEHR conducts research and development activities related to environmental contamination to support DoD efforts in warfighter protection and Installation restoration. |
| ***U.S. Army Information Systems Engineering Command–Fort Detrick Engineering Office (USAISEC-FDEO)***<br>The USAISEC-FDEO is the provider of engineering, installation and testing of information systems and facilities throughout the DA as well as the Defense Department agencies. |
| ***U.S. Army Medical Information Systems and Services (USAMISSA)***<br>Under the control of USAMRMC, USAMISSA provides full spectrum information technology systems architecture, acquisition and life cycle management for the Army Medical Department. |
| ***U.S. Army Medical Materiel Agency (USAMMA)***<br>Under the control of the USAMRMC, USAMMA supports Army readiness and other critical health care missions through the execution of medical logistics programs. USAMMA also develops and initiates innovative logistics concepts and technological advances as well as managing procurement, fielding, and maintenance of medical materiel and technology. |
| ***U.S. Army Medical Materiel Development Activity (USAMMDA)***<br>USAMMDA, a subordinate activity of USAMRMC, assumes product management responsibility once a candidate product has advanced from the research phase to the development phase. The advanced development phase managed by USAMMDA includes obtaining necessary approvals from the FDA for new drugs, vaccines, and medical devices. |
| ***U.S. Army Medical Research Acquisition Activity (USAMRAA)***<br>USAMRAA is responsible for procurement activities for USAMRMC and provides procurement support to most of the other tenant organizations on Fort Detrick, the Office of the Surgeon General of the Army, the Walter Reed Army Institute of Research (WRAIR), and for laboratories outside the continental United States. USAMRAA also manages acquisition policies, procedures, and rules related to extramural research programs. |
| ***U.S. Army Medical Research and Materiel Command (USAMRMC)***<br>The primary function of USAMRMC is meeting requirements for science, technology, knowledge, and medical material and the life cycle management of medical materiel for the DA. In addition, USAMRMC conducts research and development activities at military research facilities and through hundreds of contracts and agreements with universities, institutions, and industry. |
| ***U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)***<br>USAMRIID conducts biological defense research to develop strategies, products, information, procedures, and training for medical defense against biological warfare agents and naturally occurring infectious diseases of military importance. |
| ***U.S. Army Security Force (USASF)***<br>The USASF conducts physical security, access, and egress control and law enforcement. |

**Table 2-1. Current Fort Detrick Tenants and Their Associated Missions/Operations (con't).**

| |
|---|
| ***U.S. Department of Agriculture (USDA)***<br>The agricultural research conducted at Fort Detrick is performed by the USDA, Agricultural Research Service (ARS), and Foreign Disease-Weed Science Research Unit. The mission of the USDA is to develop fundamental information about foreign plant pathogens that either have potential to damage U.S. crops or have potential beneficial use in biological control of weeds. |
| ***U.S. Naval Medical Logistics Command (NMLC)***<br>The mission of NMLC is to provide and coordinate medical and dental materiel management and logistical support to the operating forces, U.S. Marine Corps, and shore activities. The NMLC also collaborates with other Offices, Commands, and Agencies on medical materiel and logistical support matters and performs other tasks as identified. |
| ***U.S. Secret Service***<br>The U.S. Secret Service is a tenant at Fort Detrick, which is a liaison with the law enforcement community for Western Maryland, including Camp David. |

*Source: Fort Detrick Public Affairs Office, 2003b.*

(experimental and non-experimental), basic laboratories (Biosafety Level [BSL] 1 and BSL-2), biological containment laboratories (BSL-3 and BSL-4), and administrative/support areas (USAMRMC, 2001).

The USAMRIID facility, over 10,000 sf of BSL-4 and 50,000 sf. of BSL-3 laboratory space, is the largest biological containment laboratory in the United States (Fort Detrick Public Affairs Office, 2003b). USAMRIID also maintains an animal farm is located on Area B west of Area A in Frederick. The Large Animal Research Facility (LARF) consists of 120 acres, including 108 acres of pasture.

USACEHR performs basic, exploratory, developmental and advanced non-systems developmental research in the areas of field medical materiel, vector control systems, health hazard assessments, and environmental health impacts. Research activities conducted by USACEHR include both laboratory and field experiments. USACEHR utilizes nine facilities at Fort Detrick. The types of laboratories operated by USACEHR for research and development activities include chemistry, microbiology, entomology, engineering, and aquatic toxicology. Other research facilities include fish holding tanks and a portable water-quality monitoring laboratory.

National Cancer Institute at Frederick

The NCI-Frederick conducts research and development activities designed to prevent and cure cancer and AIDS. NCI-Frederick is a legally separate entity that owns and occupies approximately 111 structures on approximately 68 acres of land in Area A. The NCI-Frederick facilities consist of laboratories (BSL-1 through BSL-3), laboratory animal breeding areas, and office/administrative space. Microbiology; molecular biology; biochemistry; the biology of oncogenes, viruses and retroviruses; genetics, and virology are among the research disciplines utilized in research activities at NCI-Frederick. The largest contractor to the NCI-Frederick is Science Applications International Corporation (SAIC).

Agricultural Research

Agricultural research activities are performed by the USDA, ARS, Foreign Disease-Weed Research Unit. USDA operates a microbial containment greenhouse and laboratory complex, agricultural fields, and a research and office complex to fulfill its mission. The research conducted by USDA has emphasis on foreign plant pathogens. USDA's mission is to develop fundamental

information about foreign plant pathogens that either have potential to damage U.S. crops or have potential beneficial use in biological control of weeds.

### 2.4.2 Military Medical Program Support

Tenants such as the JRCAB, JMLFDC, DCMA, and the AFMIC provide medical service coordination, standardization, information, and logistics support for all branches of the Armed Forces. Other tenants at Fort Detrick provide coordination, supply, and logistical support for specific Army, Navy, or Air Force medical programs. These tenants include the TAO, MC4, 6MLMC, AFMLO, WAR-MED PSO, USAMISSA, and the NMLC.

Tenants conducting medical materiel support activities under USAMRMC at Fort Detrick include USAMMDA, USAMRAA and USAMMA. These tenants provide planning, coordination, execution, and review of Army-wide medical research, development, testing, and evaluation (RDT&E) programs. USAMMDA assumes product management responsibility once a candidate product has advanced from the research phase to the development phase. The advanced development phase managed by USAMMDA includes obtaining necessary approvals from the FDA for new drugs, vaccines, and medical devices.

USAMRAA is responsible for procurement activities for USAMRMC and provides procurement support to most of the other tenant organizations on the Installation, the Office of the Surgeon General of the Army, WRAIR, and for laboratories outside the continental United States. USAMRAA also manages acquisition policies, procedures, and rules related to extramural research programs. All activities conducted by USAMRAA are administrative in nature.

USAMMA provides medical logistics management to USAMRMC through a worldwide network of logistics support organizations. Through the execution of medical logistics programs, USAMMA supports Army readiness and other critical health care missions. USAMMA also develops and initiates innovative logistics concepts and technological advances as well as managing procurement, fielding and maintenance of medical materiel and technology. All activities conducted by USAMMA are administrative in nature.

### 2.4.3 Other Operations

Other tenants at Fort Detrick conduct activities which are unrelated to military medical programs and do not involve research. These tenants include: the U.S. Army Reserve Center-Flair Armory; Company A, 1st SATCON Battalion; Company B, 4th Light Armored Reconnaissance Battalion, U.S. Marine Corps Reserve; the 1108th U.S. Army Signal Battalion; the 1110th U.S. Army Signal Battalion; the 1111th U.S. Army Signal Battalion; USAISEC-FDEO; USASF; and the U.S. Secret Service. The Flair Army Reserve Center contains offices, classrooms, and a drill hall. The Center serves as a facility for the organization, administration, and training of the Detachment 1, 301st Signal Company, U.S. Army Reserve. The Flair Army Reserve Center also serves Company B, 4th Light Armored Reconnaissance Battalion, 4th Marine Division, Marine Forces Reserve. The mission of the 4th Light Armored Reconnaissance Battalion is to conduct reconnaissance, security, and limited offensive and delaying operations to support the Division in developing the operational situation and in shaping the battlefield. The Flair Army Reserve Center and the 4th Light Armored Reconnaissance Battalion conduct training of reservists in vehicle repair and maintenance in Area B of Fort Detrick. The missions of the 1108th, 1110th, 1111th Signal Battalions are to operate and maintain major communications systems for the Department of Defense. Physical security on the Installation is provided by the USASF.

Service tenants at Fort Detrick that provide services to military personnel and the Installation community include: the AAFES; DeCA; the U.S. Army Dental Clinic; and the U.S. Army Health Clinic. Merchandise and food products are provided to personnel and their families through the AAFES and DeCA. Health and dental services are provided to military personnel and their families by the U.S. Army Dental and Health Clinic, located in the Barquist Army Health Care Facility.

## 2.5 CHANGES IN LAND USE

Existing and future land use at Fort Detrick can be categorized into 16 different land use types: Administrative, Agrifield, Community Facility, Family Housing, Grazing Area, Landfill, Maintenance, Medical and Dental, National Cancer Institute, Open Buffer Zone, Operations, RDT&E, Recreation, Training, Troop Housing, and Utility (see Figure 2-4 and Figure 2-5) (STV, Inc., 2003a). The most prominent feature of the existing land use on Fort Detrick is the large amount of land used for agricultural (342 acres) and livestock grazing purposes (148 acres). Another characteristic of the existing land use for Fort Detrick is the fragmentation of similar activities on the Installation, particularly for land uses related to administration, research and development, and community services (see Section 4.1 for an expanded discussion of current land use).

Land use changes are proposed for both Area A (see Figure 2-6) and Area B (see Figure 2-7). Potential future land use at Fort Detrick includes a large reduction in the amount of land used for agricultural and livestock grazing purposes (approximately 180 acres) (STV, Inc., 2003a). Most of this acreage would be devoted to research and development in the future under the Land Use Plan. Consolidation of like activities is also expected to result from implementation of the Land Use Plan, which will benefit the workforce (administration, research and development) and residents (community facilities) of Fort Detrick. Implementation of the Land Use Plan will also be more consistent with the Mission Land Allocation for Fort Detrick. Potential land use constraints are discussed in Section 4.23.5.

The following discussion of future land use on the Installation is organized by broad land use classification. The more detailed 16 existing and future land use classifications have been consolidated into 7 less detailed land use classifications to better conceptualize potential land use allocation on the Installation (see Figure 2-8). This approach is based on the functional relationships among land uses and between adjoining land uses on the Installation. This approach also provides a better framework for assessing environmental consequences. These classifications include:

- Administration (Section 2.5.1)
- Research and Development (Section 2.5.2)
- Infrastructure/Operations/Communications (Section 2.5.3)
- Agriculture (Section 2.5.4)
- Military Housing (Section 2.5.5)
- Community Services (Section 2.5.6)
- Natural Resources/Historical Resources/Recreation (Section 2.5.7)

In the following discussion, construction projects which are currently underway or which will soon be underway are included as an existing land use (**Approved Projects**). These projects have previously undergone NEPA review. The **Proposed Projects** (Proposed Action) include the land use changes that are in the design/planning stage and involve construction of new facilities

and/or proposed changes in land use (see Table 2-2, Figure 2-6, and Figure 2-7). **Approved Projects** and **Proposed Projects** are expected to be completed within five years. Although not part of the Proposed Action per se, the descriptions of **Concurrent Projects** and **Conceptual Projects** are included to provide a more meaningful baseline for assessing potential future environmental impacts (e.g., cumulative impacts), as well as estimating utility demand and waste stream disposal requirements.

The categorization of potential future land use discussed below is neither intended to suggest that the Installation has made firm decisions regarding future land use, nor that the Installation has determined that future land use decisions must neatly fit into particular land use classifications. Rather, the following discussion is intended to describe likely alterations to land use to assess the associated environmental impacts resulting from implementation of the Proposed Action. Regulatory constraints or considerations are indicated where appropriate.

### 2.5.1 Administration

Administrative facilities are essential to the functioning of the Installation and the execution of individual missions at Fort Detrick. The mission of Fort Detrick is to provide operational support services to the Installation tenants. In addition, Headquarters, USAG and DA personnel together provide financial management, housing, transportation, safety, security, specialty engineering, and moral support to its military and civilian populations. The 34 tenant units at Fort Detrick include both DoD and non-DoD organizations.

The location of administrative facilities in Area A is unlikely to change as the existing facilities are either centrally located or are located near the tenant organizations they support. All of these proposed facilities, with the exception of a small amount of agricultural land for the Medical Logistics (MEDLOG) addition, would be constructed on land already classified as administrative so there would be no change in land use classification from these actions. The proposed facilities will house personnel currently on the Installation; therefore no increases in parking, traffic, utility or resource demands will be associated with the Proposed Projects involving administrative land use.

6MLMC Company Operations Facility **(Approved Project)**

An EA was completed for this project in December 1997 (USACOE, 1997b). A proposed Company Operations Facility will be constructed in the southeast portion of Area A, south of Porter Street and east of the Unaccompanied Enlisted Personnel Housing (UEPH). This facility will temporarily house the 6MLMC while the proposed MEDLOG complex is being constructed. The 6MLMC will then relocate into the MEDLOG complex and other smaller activities such as the USAG Company and the 1110$^{th}$ may permanently share this facility. The surface area occupied by the Company Operations Facility, associated sidewalks, and parking will be approximately 26,000 sf.

MEDLOG Relocation **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. Consolidation of the MEDLOG tenants and offices (USAMMA, AFMLO, NAVY, JRCAB, 6MLMC, JMLFDC, WAR-MED), and the Defense Supply Center Philadelphia (DSCP) will be in a new building or a building complex (approximately 81,000 gsf) facing the Parade Field, south of the water tower on Doughten Road (see Figure 2-9 and Figure 2-10). Building 1423 (41,812 gsf) and Building 1432 (12,480 gsf), which currently house some of the MEDLOG tenants, will be demolished (see Table 2-3). To the west (off of Porter Street) a large central parking lot will be installed.

**Table 2-2. NEPA Status of Installation Projects by Land Use.**

| PROJECT | PROJECT TYPE | NEPA DOCUMENTATION | PROJECT COMPLETION |
|---|---|---|---|
| ***Administration (Section 2.5.1)*** | | | |
| 6MLMC Company Operations Facility | Approved | EA Completed | Within 5 Years |
| MEDLOG Relocation | Proposed | Proposed Action | Within 5 Years |
| USAMRMC Headquarters Building | Proposed | Proposed Action | Within 5 Years |
| Replacement of Building 1686 | Proposed | Proposed Action | Within 5 Years |
| ***Research and Development (Section 2.5.2)*** | | | |
| USAMRIID Animal Facility (AF) | Approved | EA Completed | Within 1 Year |
| BioMedical Research Campus (Infrastructure) | Proposed | Proposed Action | Within 5 Years |
| National Institute of Allergy and Infectious Diseases (NIAID) Integrated Research Facility (IRF) | Concurrent | EIS In Progress | Within 5 Years |
| NCI-Frederick Expansion (22-acre parcel) | Conceptual | Separate EA/EIS | Uncertain |
| NCI-Frederick Main Campus Revitalization | Conceptual | Separate EA/EIS | Uncertain |
| USAMRIID Expansion | Conceptual | Separate EIS | Uncertain |
| ***Infrastructure Operations/Maintenance (Section 2.5.3)*** | | | |
| Allegheny Power Substation | Approved | EA Completed | Within 3-6 Months |
| Fire Station Renovation/Expansion | Approved | EA Completed | Within 5 Years |
| Substation Expansion | Approved | EA Completed | Within 5 Years |
| Fluoridation of Fort Detrick Drinking Water | Approved | EA Completed | Within 1 Year |
| Antenna Relocations/Replacements | Proposed | Proposed Action | Within 5 Years |
| HOT Dome and RV Parking Lots | Proposed | Proposed Action | Completed |
| Main Gate Reconfiguration | Proposed | Proposed Action | Within 5 Years |
| Area A Gate Upgrades | Proposed | Proposed Action | Within 5 Years |
| Barracks Parking Lots | Proposed | Proposed Action | Within 5 Years |
| Vehicle Inspection Station | Proposed | Proposed Action | Within 5 Years |
| Central Utility Plant | Conceptual | Separate EA | Uncertain |
| ***Agriculture (Section 2.5.4) No Projects*** | | | |
| ***Military Housing (Section 2.5.5)*** | | | |
| UEPH II Housing | Approved | EA Completed | Within 5 Years |
| RCI Housing | Concurrent | EA In Progress | Within 5 Years |
| ***Community Services (Section 2.5.6)*** | | | |
| Commissary and Post Exchange (PX) | Approved | EA Completed | Within 5 Years |
| Renovation of Building 1520 | Approved | EA Completed | Within 5 Years |
| UEPH II Dining Facility | Approved | EA Completed | Within 5 Years |
| Child Development Center Addition | Proposed | Proposed Action | Within 5 Years |
| Hotel and Conference Center Complex (HCCC) | Conceptual | Separate EA | Uncertain |
| ***Natural Resources/Historical Resources/Recreational (Section 2.5.7)*** | | | |
| Jogging Track Relocation | Approved | EA Completed | Within 5 Years |
| Wetlands Project | Proposed | Proposed Action | Within 5 Years |
| Forestation Project | Proposed | Proposed Action | Within 2 Years of Each Project |
| Cultural Areas Projects | Proposed | Proposed Action | Within 5 Years |
| Nallin Pond Recreation Park | Proposed | Proposed Action | Within 5 Years |
| Community Park | Proposed | Proposed Action | Within 5 Years |
| Indoor Pool Addition | Proposed | Proposed Action | Within 5 Years |

USAMRMC Headquarters Building **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. All of the USAMRMC headquarter elements will be relocated to a new facility adjacent to Building 810 (see Figure 2-9 and Figure 2-10). The proposed 3-story, 50,000-55,000 gsf facility will accommodate approximately 200 personnel and will include primarily administrative space, a mailroom, conference rooms, break rooms, and possibly a courtroom (Bennett, 2003b). To accommodate the construction of the Joint Medical Logistics Complex and the USAMRMC consolidation, Buildings 504, 504X, 504XX, 525 and 722, and possibly Building 521 will be demolished.

Building 1686 Replacement **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. Building 1686 (14,033 gsf) currently houses SATCON and the Proposed Project is to replace this building. The new one-story 18,700 gsf building will be located on the northwest side of the existing building at which time the existing building will be demolished (see Table 2-3).

### 2.5.2 Research and Development

Research and development are currently the principal components of the Installation's operations and will likely retain this status in the future. Considerations for this land use classification include more stringent security, specialized utility support, and robust environmental controls.

USAMRIID Animal Facility **(Approved Project)**

An EA was completed for this project in July 2002 (USAMRMC, 2002). An approved Animal Facility (AF) will be located directly adjacent to USAMRIID Building 1412, near the location of other BSL-3 laboratory facilities. The AF will be approximately 13,000 sf in size and will be connected via a walkway to Building 1412. The AF will provide temporary housing for animals utilized mainly for USAMRIID activities. Utilities provided by the Installation in the vicinity of Building 1412 will serve the AF, including water, sanitary sewer, electricity, chilled water, gas, Laboratory Sewer System (LSS), steam, telephone, and Local Area Network (LAN) services.

BioMedical Research Campus **(Proposed Project)**

A portion of this project is being evaluated in this EA. Approximately 200 acres of the central portion of Area A has been designated for a new BioMedical Research Campus (see Figure 2-9 and Figure 2-10). This campus would encompass mostly agricultural field and Forest Blocks 1 and 2. The campus is bordered by the USDA and Ditto Avenue to the west, the Area A perimeter fence to the north, Porter Road to the south, and by antenna fields to the east. BSL laboratories may be located within this campus with tenants such as USAMRIID, Department of Homeland Security (DHS), USDA, NIAID, and other government agencies.

Access to the campus will be controlled through a perimeter fence, gatehouse(s), and employee ID cards. There will be a two-lane 25 ft. wide loop road, which will stretch approximately 1.75 miles around the BioMedical Research Campus within the perimeter fence. There will also be a network of roads and pedestrian walkways within the campus for access to the individual buildings. A new Central Utility Plant including a steam sterilization plant (SSP) may be constructed in order to support facilities within the Campus.

**Table 2-3. Buildings to be Demolished on Area A as Part of the Proposed Action.**

| Buildings | Year Constructed | Past Use | Current Use | Construction Type | Tenants | GSF |
|---|---|---|---|---|---|---|
| 1423 | 1987 | Administrative | Administrative | Steel Frame | USAMMA/AFMLO/JRCAB | 41,812 |
| 1432 | 1994 | Administrative | Administrative | Steel Frame | USAMMA/AFMLO | 12,480 |
| 1686 | 1979 | Equipment Facility | Equipment Facility | Steel Frame | SATCON/CONUS | 14,033 |
| 504 | 1943 | Laboratory | Administrative | Block | Regulatory Compliance and Quality (RCQ) | 3,986 |
| 504X | 1984 | Administrative | Administrative | Wood | RCQ | 2,281 |
| 504XX | 1985 | Administrative | Administrative | Wood | RCQ | 4,237 |
| 521 | 1944 | Laboratory | Courtroom/ Storage | Block | Judge Advocate General | 12,148 |
| 525 | 1945 | Laboratory | Administrative | Block | DCSLOG/ WAR-MED | 6,424 |
| 722 | 1944 | Administrative | Administrative | Wood | Research Areas Directors | 9,687 |
| 800 | 1951 | Bachelor Housing | Army Lodging | Wood | USAG | 2,000 |
| 801 | 1951 | Bachelor Housing | Army Lodging | Wood | USAG | 2,000 |
| 802 | 1951 | Bachelor Housing | Army Lodging | Wood | USAG | 2,000 |
| 817 | 1944 | Enlisted Mess | Administrative | Wood | USAMRAA | 9,130 |
| 818 | 1951 | Family Quarters | Administrative | Wood | USAMRAA | 2,027 |
| 820 | 1944 | Administrative | Administrative | Wood | USAMRAA | 7,696 |
| 901 | 1944 | Laboratory | Administrative | Wood | 6MLMC | 9,663 |
| 903 | 1944 | Storage | Administrative | Wood | USAG | 2,000 |
| 904 | 1944 | Storage | Administrative | Wood | 6MLMC | 2,000 |
| 910 | 1990 | Racquetball | Storage | Steel Frame | USACEHR /USAG | 2,137 |
| 917 | 1944 | Utility Shop | Private Organization Clubs | Block | USAG | 2,802 |
| 940 | 1949 | Gas Station Building | Storage | Wood | USAG | 112 |
| 941 | 1950 | Wash rack | Storage | Block | USAG | 1,183 |
| 950 | 1968 | Auto Service Station | Auto Service Station | Block | AAFES | 609 |
| **TOTAL** | | | | | | **152,447** |

The road construction portion and utility upgrades (installation, burial and/or relocation of electrical lines, extension of water supply and wastewater lines to the area near the proposed NIAID site) are evaluated in this EA; other infrastructural requirements (i.e., Central Utility Plant) would be subject to future NEPA review. Environmental impacts associated with the construction and operation of new BSL facilities would also be assessed in separate EAs or EISs.

NIAID Integrated Research Facility (IRF) **(Concurrent Project)**

An EIS is being prepared for this facility concurrently but separately from this EA (NIH/USAG, 2003). A new NIAID IRF has been approved and may be built on a parcel adjacent to USAMRIID on Area A. This facility may provide as much as 150,000 gsf of floor space for research laboratories (BSL-2, BSL-3, and BSL-4), housing laboratory space for animal research, radiology equipment, mechanical space, administrative support, and a waste-handling area. It will be located on the BioMedical Research Campus.

NCI – Frederick **(Conceptual Project)**

Separate NEPA analyses would be prepared for NCI-Frederick projects. NCI-Frederick at Fort Detrick conducts fundamental cancer research activities in their facilities and currently occupies approximately 68 acres in the western portion of Area A. A 22-acre parcel of land directly north of the NCI-Frederick campus has been permitted to NCI-Frederick by USAG and is being considered for facilities supporting biomedical research. The 22-acre parcel is classified as an open buffer zone (forest block).

NCI-Frederick is considering a major revitalization of the main campus. The new plan may include demolishing existing smaller buildings and constructing larger more integrated facilities to consolidate many activities currently spread out around the campus. The plan may also include infrastructural changes such as parking garages, roadway reconfiguration, and landscape changes. The campus area is currently classified as industrial, and the future land use map classifies the entire 68-acre parcel as research and development.

USAMRIID Expansion **(Conceptual Project)**

A separate EIS will be prepared for this project when deemed necessary. USAMRIID is evaluating the feasibility of expanding and revitalizing its current facilities. The project may include the construction of a new 1,000,000 gsf facility within the BioMedical Research Campus and adjacent to the proposed NIAID IRF. The current 30-year old USAMRIID facilities (Buildings 1425 and 1412) may be renovated or may be demolished once the proposed facility is operational. The new facility will consolidate many of the activities that are currently spread out between the buildings. The new facility will include cutting-edge BSL and Animal Biosafety Level (ABSL)-2, 3, and 4 laboratories, animal holding areas, administrative areas, common areas (e.g., meeting rooms, cafeteria), mechanical rooms, and a waste disposal center. A knowledge center is also included in this project and is expected to be a separate facility to be utilized as a library for all of the BioMedical Research Campus tenants.

### 2.5.3 Infrastructure/Operations/Communications

Infrastructural activities at Fort Detrick include maintaining Installation roadways, security operations, and support services (e.g., fire department, utilities). Area A existing roadways will be rerouted in certain areas and new access roads will be constructed to serve the various new Proposed Projects (see Figure 2-9, Figure 2-10, and Figure 2-11). A summary of the infrastructural improvements is provided below.

Industrial operations at Fort Detrick include maintaining Installation facilities by providing utilities, storing materials, and transporting and disposing of wastes (i.e., general, hazardous, radiological). The majority of the DIS facilities that provide these services are located along the western edge and in the southwestern corner of Area A.

The advanced communication facilities associated with the 1108th, 1110th, and 1111th U.S. Army Signal Battalions are essential and operationally sensitive areas of the Installation. Site constraints of the U.S. Army Signal Battalion include siting antennae away from the perimeter boundaries of the Installation to meet security requirements, and unobstructed satellite links must be available. The U.S. Army Signal Battalion communication facilities located in Area A are situated adjacent to the large block of agricultural land on the eastern portion of Area A.

Allegheny Power Substation **(Approved Project)**

An EA was completed for this project (USAG, 2002g). An approved Allegheny Power (AP) 230 – 12.5 kilovolts (Kv) electrical substation is currently being constructed on a leased easement of Area A. The substation yard is adjacent to the USDA and comprises a 2.2-acre area immediately to the north of the right-of-way for the existing AP 230 Kv transmission lines. This substation (the Old Farm) is needed to meet the current and future electrical load requirements for northwest Frederick, Maryland and the surrounding area. The new substation initially will serve AP's Clover Hill, Whittier, and Rock Creek 12.5 Kv-circuit service areas. Initially, Fort Detrick will benefit indirectly through reduced loading on the Installation's local 34.5 Kv electrical system.

Although the new substation is being constructed with one 230-12.5 Kv transformer, it will be designed for the future installation of three additional transformers served from the 230 Kv system. Depending on actual load growth, the future transformers will provide additional capacity to reinforce AP's local 34.5 Kv system or surrounding 12.5 Kv system. Direct, dedicated service to Fort Detrick or other large loads could also be provided from this facility.

Construction of a permanent stormwater management pond is planned for an approximately 0.28 acre area at the southwestern corner of the substation yard. Planting of mixed grasses within this area will facilitate infiltration, and trees will be planted along the southern and western sides of the pond. Landscape screens will be planted around the substation using native species.

Fire Station Renovation/Expansion **(Approved Project)**

An EA was completed in December 2002 for this project (USAG, 2002e). Building 1504 houses the Fort Detrick fire department and the Provost Marshall's Office (PMO). The fire department occupies the northern portion of Building 1504. The existing fire station (7,620 sf) will be demolished and renovated and a new apparatus room (5,760 sf), consisting of five drive-thru bays, will be added west of the building where the existing concrete pad is located. The larger fire station will meet current USACOE design criteria and will be better equipped to service Fort Detrick's fire prevention and protection needs well into the future. The proposed renovation/ expansion of the fire station is scheduled for construction in the third quarter of fiscal year (FY) 2004 (USAG, 2002e).

Substation Expansion **(Approved Project)**

An EA was completed in December 2002 for this project (USAG, 2002e). The current substation is located north of Porter Street, and approximately 150 ft. southeast of USAMRIID Building 1425. Approximately 25 ft. east of the station is a stormwater retention pond approximately 14,520 sf in size. The existing substation is 3,780 sf in size and the expansion will be 80 ft. x 80 ft. (6,400 sf) for a total substation area of 10,180 sf. The proposed substation will have a capacity of 28 megawatts. The size is estimated to be 10 Mega Volt Amperes (MVA), 34.5 Kilovolt (Kv) to 4.15 x 12.47 Kv. The new addition will be to the north and will be a concrete pad

on top of gravel. The larger substation will service the existing buildings in the south central portion of Area A as well as potential new facilities that may be added to this area of the Installation (Bennett, 2002).

Fluoridation **(Approved Project)**

An EA was completed in March 2002 for this project (USAG, 2002b). The Installation will reinstate fluoridation of the drinking water supply. The drinking water supply has not been fluoridated since May 1994. After extensive evaluation, it was determined that fluoride would be beneficial as a preventive tooth decay measure if added to the drinking water on Fort Detrick. The concentration of fluoride in the finished water will be 0.9 parts per million (ppm) (USAG, 2002b). The background level of fluoride in the Monocacy River is approximately 0.2 ppm (Grams, 2003b). Fort Detrick may award a project to repair the fluoridation system in 2003 and begin fluoridation of the drinking water supply immediately after repairs have been completed (Sheffer, 2003; USAG, 2002b).

Antenna Relocations/Replacements **(Proposed Project)**

The antennae relocation/replacement project is being evaluated in this EA for its potential environmental impacts. All antennae are maintained by the 1108$^{th}$ U.S. Army Signal Brigade, a subsidiary of NetCom, headquartered at Fort Huachuca, AZ. Relocation or replacement of antenna sites on Area A will be necessary as a result of construction of the Hotel and Conference Center Complex (HCCC) and the Nallin Farm Pond Recreational Area Park improvements. A separate, more detailed NEPA analysis will be performed for the construction and operation of an HCCC. The construction of the HCCC will require the relocation or replacement of Antenna 8 and 9, currently located along the easterly north perimeter of Area A to a site north of Building 1435. Antennae 8 and 9 are fixed south. Antenna 6, which is omni directional, is located near the picnic shelter of Nallin Farm Pond. Antenna 6 will be relocated or replaced north of Building 1435 as a result of the proposed construction of baseball fields (see Figure 2-9, Figure 2-10, and Appendix E). The future sites of the remaining antennae on Area A will be consolidated in an Antenna Field north of Building 1435 and 1650. A security chain link fence will surround the entire Antenna Field. Alternatively, the antenna field in Area A may be taken down and reestablished in Area B. A separate EA would be prepared for relocating the antennae field to Area B.

HOT Dome and RV Parking Lots **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. Two gravel parking lots approximately 20,000 sf each were constructed in May 2003. One parking lot replaced a grassy area south of the HOT Dome (Building 832) and north of Chandler Street, while the other parking lot was placed on a grassy area adjacent to the USDA (Building 1301). The parking lot adjacent to the USDA Building will be reserved primarily for recreational vehicle (RV) parking.

Main Gate Reconfiguration **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. A proposed new road will direct traffic from the Main Gate entrance around the proposed commissary and run adjacent to the Physical Fitness Center (see Figure 2-9, Figure 2-10, and Appendix E). Another road will be an extension of the Nallin Farm Road and will proceed north to connect the northeastern corner of the proposed BioMedical Research Campus to a new entrance gate located in the northeastern corner of Area A. This new gate will allow traffic to enter and exit

Area A at a signalized intersection on Opossumtown Pike and Amber Drive. Ditto Avenue will be widened from Porter Street north to Sultan Avenue as part of the road reconfiguration.

Area A Gate Upgrades **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. Upgrades have been proposed for the Area A Gates to meet traffic flow demands and antiterrorism/ force protection (AT/FP) requirements. The Main Gate at West 7th Street and Military Road will be rerouted so that all decaled employees and non-decaled visitors will enter the Installation from a connecting road to Porter Street between Building 1500 and Building 1504. A 10 to 20 ft screening wall for the purpose of reducing visual and noise impacts to off-post residents will be included in the reconfiguration of the Main Gate. The existing Rosemont Gate will remain open from 3:00pm – 6:00pm for exiting traffic only. This gate will be upgraded to meet FP/AT requirements. The existing Opossumtown Gate will be transformed into an emergency gate only and a new entrance/exit gate will be constructed in the northeastern corner of Area A. This gate will be constructed at an existing traffic light across from the Frederick Community College (FCC) and adjacent to Amber Meadows.

Entrance/exit gates will be upgraded with ballistic protection glazing, blast proofing, lights, manual and fixed bollards in front of the guardhouses. The Old Farm Gate and Opossumtown Gate will have new guard shacks installed, and all will have Closed Circuit Television and recorders to monitor the inspection process at the gates.

Barracks Parking Lot **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. The row of parking closest to the UEPH will be removed and turned into green space. The existing parking lot will be expanded north towards Porter Street. This will provide a 50-foot setback from the UEPH building and will conform to force protection requirements. The parking lot will include approximately 40,000 sf of impervious surface area.

Vehicle Inspection Station **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. A new Remote Truck Inspection Station will replace the Old Farm Gate on the northern portion of the 22-acre parcel containing Forest Block 3 and the Wide Pasture Archeological Site (see Figure 2-9, Figure 2-10, and Appendix E). This estimated 4,800 sf facility will serve as a security checkpoint for all trucks and passenger vehicles entering at the Old Farm Gate entrance. This facility will meet new robust AT/FP requirements, increased traffic from new Installation construction projects, and will help to ease congestion problems at the Main Gate.

The facility will consist of two entrance and two exit lanes, three truck inspection lanes, two passenger vehicle lanes and a two-bay vehicle inspection shed with under-truck inspection pits, electronic detection equipment, exterior lighting, two guardhouses, barricades, CCTV and other accommodations (STV, Inc., 2003b). Landscaping will provide security screening from off-site view and sidewalks will provide pedestrian access. Existing asphalt and some fencing will be used for constructing the new facility. Adjacent land-use includes family housing to the east, the Wide Pastures archeological site and Forest Block 3 to the south, a vacant field to the north, and Rosemont Avenue to the west.

Central Utility Plant (CUP) **(Conceptual Project)**

Construction and operation of a new CUP would require future NEPA review, and is not assessed in the current EA. New steam sterilization facilities are being considered to replace the large-capacity SSP and eliminate much of the LSS. The existing SSP is located on the extreme western boundary of Area A (USAG, 1997a).

This facility may be constructed to serve USAMRIID, USDA, and other possible tenants that might be located in the proposed new Area A BioMedical Research Campus area. The size and capacity of this facility is currently unknown and the final decision regarding this Conceptual Project would be determined by the availability of funds.

### 2.5.4 Agriculture

Agricultural land is a prominent feature of both Area A and Area B at Fort Detrick. Open areas on the Installation are used not only for agriculture, but also support collateral uses, such as recreational and training activities. As discussed below, a significant portion of the agricultural land on Fort Detrick is being considered for various future projects. The Integrated Resource Management Plan (INRMP) recommends that some of the agricultural activities currently conducted in Area A should be transferred to Area B of the Installation to allow for the construction of the BioMedical Research Campus. Currently, agricultural land on Area A is used occasionally for USDA research, and in Area B agricultural land is outleased for animal grazing or used by the USAMRIID Animal Farm.

Several changes to the land use patterns in Area A will result from ongoing construction activities and Proposed Projects. These changes will reduce the overall amount of agricultural land on Area A. The future construction activities associated with the Residential Communities Initiative (RCI) housing complex and the construction of a BioMedical Research Campus in the central portion of Area A, will increase the amounts of community services and military housing in Area A.

### 2.5.5 Military Housing

All of the barracks on Fort Detrick are located in Area A. Continued growth of the Installation has led to the need for additional military housing projects to be constructed. Future siting of military housing facilities will be based on a number of factors including size, type of occupants, location of occupants' employment, and access to community services.

UEPH II Housing **(Approved Project)**

An EA has been completed for this project (USACOE, 1996a; USACOE, 1997a; USACOE, 1997b; USACOE, 1999a). A second UEPH complex has been approved to replace the barracks in Building 1430 and is currently being designed (see Figure 2-9, Figure 2-10, and Appendix E). The new UEPH II barracks will be integrated into the existing UEPH building so that the buildings will appear as one complex. The new barracks will include living quarters for 144 in three separate barracks buildings. The buildings will be three-story, standard-design barracks with living and sleeping rooms, walk-in closets, service areas, and either semiprivate or private baths. Construction of these barracks will bring the Installation into compliance with current DA living standards for the single soldier. The proposed site is centrally located on the Installation

and is convenient to many soldier duty stations. In addition, the new barracks will be located in a consolidated complex that will provide housing, dining, community, recreation, and company operations facility within a short walking distance (USACOE, 2002a).

RCI Housing **(Concurrent Project)**

An EA, which will provide a more detailed environmental analysis of the RCI project, is being prepared concurrently but separate from this EA (USACOE, 2003). Estimated utility consumption and waste streams for this project are described in the present EA. A large housing complex funded by RCI is being proposed for the extreme northeastern corner of Area A (see Figure 2-9 and Figure 2-10). This complex will include 161 units and will be located north of the new Military Construction Army (MCA) housing development mentioned above. This housing development will offer many of the amenities that the existing barracks lack. These units will help to ease the limited on-post housing dilemma and provide housing which is both modernized and architecturally compatible with the new MCA housing development.

### 2.5.6 Community Services

The availability and abundance of community services at Fort Detrick are important to the well-being of employees and residents. All the Proposed Projects related to community services are located in Area A.

Commissary and Post Exchange (PX) **(Approved Project)**

An EA was completed in December 2002 for this project (USAG, 2002e). The new approved commissary is scheduled for construction in the first quarter of FY 2004. It will be located on an undeveloped parcel in the south central portion of Area A, to the south of Porter Street and to the east of the fire station. The proposed commissary will sell food and household items typically found in retail grocery stores at cost with no sales tax. The existing commissary is 21,780 square feet (sf) and is situated in a building that was built in 1961. The proposed new commissary will be approximately 34,210 sf and will correct all functional and operational deficiencies of the existing commissary, meet all force protection criteria, and be architecturally compatible with other structures on the Installation (USAG, 2002e).

The new approved PX is scheduled for construction in the first quarter of FY 2004. It will be located in the south central portion of Area A, north of Porter Street and east of Ditto Street where the jogging track is currently located. The proposed PX mini-mall will include a Troop Store with a Garden Sales area, a Shoppette (retail store) with a Burger King food facility, a Laundry/Dry Cleaning/Alterations Shop, a Barber and Beauty Shop, mall area, and separate gasoline service station. Some convenience store food items will also be available. The gasoline service station will be located on the PX parcel but it will be a separate building from the mini-mall. Currently these facilities are spread out around the base in World War II (WWII) temporary buildings and a consolidated PX will benefit the individual facilities as well as the consumers (USAG, 2002e).

Renovation of Building 1520 **(Approved Project)**

An EA was completed in December 2002 for this project (USAG, 2002e). The approved renovation of Building 1520, which houses the existing commissary, is scheduled for completion

in October of 2004. Building 1520 is located in the south central portion of Area A, south of Porter Street and east of the Physical Fitness Building. The renovation will finish the second floor, converting approximately 20,000 sf to offices, waiting areas, conference rooms, and classrooms. The existing commissary area may be converted to an auditorium. This renovation will consolidate several activities that are currently scattered throughout the post in five separate locations. There will be an additional parking lot created on the southeastern section of the site approximately 47,480 sf (1.09 acres) to accommodate the second floor personnel (USAG, 2002e).

UEPH II Dining Facility **(Approved Project)**

An EA has been completed for this project (USACOE, 1997a). A dining facility approximately 12,600 sf will be constructed in an undeveloped parcel south of Porter Street between Freedman Drive and the UEPH complex (see Figure 2-9, Figure 2-10, and Appendix E). This facility will provide dining services to the Unaccompanied Enlisted Personnel (UEP) assigned to Fort Detrick. The existing dining facility has been identified as being substandard for the personnel utilizing it.

Child Development Center **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. A proposed 14,000 sf building will be constructed adjacent to Building 949 (Youth Center) to meet all requirements of Fort Detrick's School Age Services (SAS) Program (see Figure 2-9, Figure 2-10, and Appendix E). The current Youth Center does not provide either adequate space or equipment to accommodate the SAS Program's required activity choices and operational functions. The facility does not provide a homework center, commercial kitchen, demonstration kitchen, or basic required space to enable the staff to work on modules or hold training. There is a limited computer lab with seven computer stations.

This new addition will be considered a standalone facility but will be connected and incorporated into Building 949 activities. This Child Development Center will include both a commercial and demonstration kitchen, areas for arts and crafts, study and computer rooms, a staff and parent lounge, eating areas, a game room, locker rooms and storage, and administrative and mechanical space (Horn, 2003).

HCCC **(Conceptual Project)**

A separate, more detailed EA will be prepared to assess the potential environmental impacts associated with the construction and operation of the HCCC. Potential utility consumption and waste streams from the HCCC are described in the present EA. Fort Detrick may lease a portion of the northeastern part of Area A for 25 years to a commercial developer (see Figure 2-9 and Figure 2-10). The activities may include construction and operation of a HCCC, tennis courts, and/or other recreational facilities, all using private funds. The HCCC may include up to 400 rooms, a state-of-the-art high-tech conference center, and a large 250- to 300-person auditorium with adjoining meeting rooms. The lease and operational activities would generate revenue for the DA. The proposed site for the HCCC currently lies inside of the Installation’s security fence line. It is likely that if the action is implemented, the security fence will be taken down and reinstalled with the HCCC outside of the security fence of Fort Detrick. Access to the proposed HCCC would be via a new road constructed from the HCCC to Opossumtown Pike. A possible joint agreement with the FCC might occur for shared access of facilities between the

two properties. Visitors to the HCCC wishing to access Fort Detrick would be required to enter the Installation via the security gates and not through the HCCC site. The HCCC would obtain utility services (water, wastewater, gas, electricity) from the Installation distribution, collection, and treatment systems.

### 2.5.7 Natural Resources/Historical Resources/Recreation

Natural resources at Fort Detrick are managed to ensure that sustainable and stable lands are available for military training and testing activities. Natural resources management also provides economic return to the Installation through agricultural out-leasing (USAG, 2001b). Extensive mowing of grassland is currently the primary natural resource management activity at Fort Detrick. The INRMP recommends that the grasslands, forest stands, and riparian areas on Fort Detrick be managed as natural resource management areas (NRMAs), and suggests natural resource management activities for the next five years. The objectives of these activities are to shift some land use activities from Area A to Area B (e.g., agriculture), to reduce mowing activities, and to convert some agricultural land to upland forest. These management strategies are intended to increase biodiversity in the preserved natural areas (USAG, 2001b). Fish, wildlife, and plant communities at Fort Detrick afford recreational opportunities including wildlife and plant viewing, education, hunting, and fishing (Boyland, 1998). Recreational areas can also serve multiple-uses, simultaneously providing recreational areas, a training field, and a NRMA. Recreational facilities at Fort Detrick will be redesigned and expanded in the near future.

Jogging Track Relocation **(Approved Project)**

An EA was completed in December 2002 for this project (USAG, 2002e). The existing jogging track, currently located on the site chosen for the proposed PX facility, will be relocated to a 5-acre undeveloped parcel midway between the Physical Fitness Center (Building 1507) service road and the proposed commissary service road which will be an extension of Randall Street. The entire track area will be approximately 132,532 sf. The paved portion of the track will be 20 ft. in width with approximately 27,000 sf. The center of the track will be utilized as a soccer field. Access to the track will be through the Physical Fitness Center parking lot (Dimarco, 2002). Lights will be installed for the new jogging track.

Wetlands Expansion **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. Wetland area W-5 (currently 4.65 acres) is the most permanent and productive wetland area at Fort Detrick. There is great potential for development and expansion of this wetland habitat (USAG, 2001a). Future plans for this area include expanding the portion of wetland area W-5 closest to the Opossumtown Gate by approximately 1.06 acres in two areas of the wetland. Tree and shrub plantings along the existing drainage swale that leads to the wetland are also included in the plans (Boyland, 2003b).

Forestation **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. In accordance with the State Forest Conservation Program, Code of Maryland Regulations (COMAR 08.18.04) any project that disturbs over 40,000 sf (0.92 acres) of land must reforest 15 percent of the equivalent surface area of the qualifying projects. The trees must be planted within 2 years of

project completion. Since Fort Detrick has a net tract area of approximately 1,200 acres and is categorized as an Institutional Development Area, a 15% forestation requirement is required.

Existing forestation on Fort Detrick includes 48.46 acres and 30.82 acres, respectively, on Area A and Area B (total = 79.28 acres of existing forest) (see Figure 2-12 and Figure 2-13). The proposed forestation plan for Fort Detrick includes an additional 30.72 acres and 83.28 acres, respectively, on Area A and Area B (total = 114.00 acres of proposed forest). After all forestation is complete, Fort Detrick would have approximately 193 acres of land use devoted to forestation. The majority of the new forests on Area A would be located on the northern portion of the BioMedical Research Campus adjacent to the Clover Hill subdivision and the FCC, and on the extreme southeastern portion adjacent to existing private residential areas. An additional strip of forest will be planted on the southwestern portion of Area A along Military Road. A portion of Forest Block 2 may be eliminated to accommodate a portion of the Ring Road in the BioMedical Research Campus.

Relatively narrow strips of trees will be planted along the Installation perimeter. The family housing area will be separated from the BioMedical Research Campus by a forest buffer along the boundary. The entire BioMedical Research Campus will be separated from adjoining land uses by forest buffers. Similarly, forest buffers will also separate the new antennae field, the Nallin Farm Historic District, and the potential site of the HCCC.

In Area B, almost all perimeter areas not currently forested will be planted with trees. The largest concentration of new plantings will be along the south central portion of Area B along Montevue Lane and Shookstown Road.

Cultural Areas **(Proposed Project)**

These projects are being evaluated in this EA for their potential environmental impacts. A small parcel of land between the parking lot of Building S-10 and Strough Auditorium on Area A, approximately 1.2 acres, has been designated a tree donation park. This park has been created for those individuals who purchase live Christmas trees (balled and burlapped) and wanted to "Leave Their Roots at Fort Detrick". Fort Detrick would provide a space, dig the hole and provide a tag or plate with the name of the person, date and type of tree. This area is still in the planning stages.

An interpretive trail is proposed for the Wide Pastures Area around Forest Block 3. This area would include an asphalt walking trail denoting the eighteen landscape features associated with the original occupation of Wide Pastures, as well as pictures of the original building and Carriage House.

Nallin Farm Recreation Park **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. The Nallin Farm Recreation Park will be redesigned to increase opportunities for diverse recreational programming, serve as a facility for all MWR activities, and promote positive interaction with off-post community through various special events. Infrastructural improvements to the Nallin Farm Recreation Park include the addition of a large pavilion, picnic shelters, a gazebo on the island of Nallin Pond, an amphitheater, and a central barbecue. Sporting interests will be met with the addition of various ball fields; a roller blade skating area, a laser tag/paint ball area, and the establishment of an equestrian club (see Figure 2-9, Figure 2-10, and Appendix E). Improvements to water recreational uses include paddle boats and canoes for Nallin Pond, a

small water park, and a possible ice skating area. A boardwalk with interpretive signs will be constructed through the expanded wetland areas. The barns in the Nallin Farm Recreation Park will be used for storage, activities, and as an outdoor recreation office. To improve service to park users, bathrooms with running water and electricity will be installed near the pavilions and vending services will be provided. Exterior lighting will be installed as part of the project. As a result of the improvements the existing parking will be expanded to meet the needs of the Nallin Farm Pond Recreation Park.

Community Park **(Proposed Project)**

Another similar project is being evaluated in this EA for its potential environmental impacts. A new Community Park will be located on approximately 15.2 acres from Doughten Drive east to Ditto Avenue and from Chandler Street north to the existing MCA housing (see Figure 2-9, Figure 2-10 and Appendix E). A total of seven mostly WWII era buildings with approximately 18,000 gsf of space will be demolished as part of this project (900 series, see Table 2-3). Currently this area contains an existing service station, several old trailer buildings, the existing Youth/Teen Centers and playgrounds, an outdoor pool and tennis courts. The trailer buildings and the gasoline service station will be demolished once replaced elsewhere on the Installation. The park will surround the Youth Center (Building 949) and the proposed Child Development Center. This park will include two lighted youth baseball fields, a youth soccer field, a pavilion, a concession stand, restrooms, two playgrounds, a volleyball court, basketball courts, and an asphalt multi-purpose trail will encircle the entire park. Other exterior lighting may also be installed.

The road structure will change and will shift through traffic south, which will provide a safer connection to the pool and tennis courts. Parking will be constructed around the west, east, and south sides of the Community Park. This area will concentrate much of the Area A parking and will be utilized by employees of the surrounding facilities during the workday and by people utilizing the community park "after-hours" and on weekends.

Indoor Pool Addition **(Proposed Project)**

This project is being evaluated in this EA for its potential environmental impacts. Building 1507 (Physical Fitness Center) will have an indoor pool constructed on the southwest side. The pool will be approximately 56 ft. (17m) in width and 82 ft. (25m) in length. It will contain 8 seven-foot wide lanes with an 8-foot deep end. The structure will be temperature controlled and will be attached to the existing Fitness Center where the current ladies and men’s locker rooms are located.

## 2.6 SITE SELECTION

Evaluation of the locations for the Proposed Projects followed guidelines outlined in AR 415-15 (*Army Military Construction Program Development and Execution*, dated 25 October 1999). This regulation provides requirements and guidelines for the implementation of construction projects on Army Installations. The approval of a site for new construction is contingent on a number of factors. For example, use of the project location must conform to Installation land planning and development principles, and safety and environmental concerns must be addressed.

AR 405-80, *Management of Title and Granting Use of Real Property* (dated 11 November 1997), regulates granting use of real property controlled by the DA, including delegating authority to issue outgrants authorizing the use of such real property by non-Army users. The

Secretary of the Army has the authority to grant the use of real property under his administrative control. The Assistant Secretary of the Army (Installations, Logistics and Environment) has the primary responsibility for DA real estate programs. A Report of Availability (ROA), Finding of Suitability to Lease (FOSL) and an Environmental Baseline Survey (EBS) must be prepared by USAG as required by AR 200-1 and Department of the Army Pamphlet (DA PAM) 200-1. ROAs contain information needed for review and approval of availability and to prepare legal documents such as leases. The Assistant Chief of Staff for Installation Management makes a Determination of Availability prior to issuing outgrants, such as leases. Army regulations require that all Installations maintain a planning board. The Fort Detrick Real Property Planning Board (RPPB) consists of representatives from the command, operational, engineering, and planning divisions of the Installation and tenant activities. The board evaluates master planning documentation, approves new construction sites and projects, and reviews the progress and status of major construction projects.

Adherence to construction design standards will assure that the proposed new buildings will be safe, sound, and functional. Many of these design parameters, which specify guidelines for features such as layout, structural integrity, and aesthetics, are based on national codes [e.g., National Fire Protection Association (NFPA) and Building Officials and Code Administrators (BOCA)], which were established to ensure the durability of structures, and hence guarantee the safety of occupants and people in surrounding areas. Various contractors will perform the construction activities for the Proposed Projects.

## 2.7 CONSTRUCTION AND DEMOLITION REGULATIONS AND CONSTRAINTS

### 2.7.1 Construction/Demolition Waste Management

To ensure environmentally sound waste management practices, the contractors will be required to submit a waste management plan within 15 days of the contract award (USACOE Guide Specifications, Section 01572). This project-specific plan must be coordinated with waste management objectives for Fort Detrick as a whole. The contractors must make every effort to reduce overall construction and demolition waste by recycling materials whenever possible. They also must comply with 10 USC Section 2692 in regards to storage, treatment, and disposal of non-defense toxic and hazardous materials and dispose of all waste generated during construction and demolition at an approved facility off the Installation.

The Fort Detrick Municipal Landfill, located in Area B, serves as the endpoint for non-hazardous waste generated at the Installation. However, to extend the life of the facility, the landfill will not be accepting disposal generated by the construction and demolition activities associated with the Proposed Action (Roszell, 2002). In accordance with Federal and state regulations, the contractors must dispose of all waste generated during construction and demolition at an approved facility off the Installation. During construction of facilities, Best Management Practices (BMPs) will be used to mitigate potential impacts to the environment.

### 2.7.2 Best Management Practices (BMPs)

During construction and/or renovation of the proposed activities application of BMPs will minimize particulate matter from becoming airborne and soil erosion from the project sites. This includes compliance with State regulations pertaining to “Particulate Matter from Materials Handling and Construction” (COMAR 26.11.06.03D).

### 2.7.3 Air Quality Requirements

The construction of some of the proposed facilities may require Clean Air Act (CAA) New Source Review (NSR)/Prevention of Significant Deterioration (PSD) evaluations. Fort Detrick is located in a severe ozone ($O_3$) non-attainment area. Because nitrogen oxides ($NO_x$) and sulfur dioxide ($SO_2$) emissions at Fort Detrick potentially surpass the threshold levels of 25 tons and 100 tons per year, respectively, Fort Detrick is considered a "major source" for permitting purposes under the CAA (Wolf, 2002d). The CAA requires that NSR evaluations be prepared before construction or installation of any new permitted major sources or any major modifications of permitted major sources in non-attainment areas that have the potential to cause significant increases of criteria pollutants ($NO_x$, $SO_x$, carbon monoxide (CO), lead (Pb), volatile organic compounds (VOCs), and particulate matter (PM)). The CAA requires that PSD evaluations be prepared before construction or installation of certain types of listed sources in attainment areas that have the potential to emit certain threshold quantities of criteria pollutants. Air quality permits to construct are required for generators greater than 1,000 horsepower (hp) or 746 Kilowatt (kW) and for fuel burning equipment greater than or equal to 1 Million British Thermal Unit (MMBtu)/hour (hr). Air quality permits to operate are required for fuel burning equipment and hot water heaters with maximum rated capacities of 50 MMBtu/hr or more (Wolf, 2002d).

### 2.7.4 Erosion and Sediment Control, and Stormwater Management

An erosion and sediment control plan for land clearing, grading, or other earth disturbance approved by the Maryland Department of the Environment (MDE) is required under COMAR 26.17.01 for construction activities involving more than 100 cubic yards or more than 5,000 sf. If the area disturbed is more than one acre, a general permit under the National Pollutant Discharge Elimination System (NPDES) is also required for discharge of stormwater during the construction period (Silvestri, 2002a).

Stormwater management measures are required for projects that disturb more than 5,000 sf on Federal property according to Code of Maryland Regulations (COMAR) 26.17.02 and the *Maryland Stormwater Management Guidelines for State and Federal Projects*, July 2001 MDE, 2001a). The planned construction will disturb approximately 25 acres, and includes approximately 23 acres of impervious surfaces (see Table 2-4). Coordination with MDE will be required for erosion and sediment control and stormwater management for the Proposed Projects.

The stormwater management facilities must be designed consistent with the *2000 Maryland Stormwater Design Manual* Volumes I and II (MDE, 2000a) and be constructed in accordance with a project plan approved by MDE. BMPs for stormwater management, including ponds, wetlands, infiltration, filtration, open channels, or a combination thereof, can be used. At Fort Detrick, extended wet detention ponds, sand filtration and open channels are the most feasible options for stormwater management, due to certain ecologic (West Nile virus), geologic (Karst geology) and climatic (drought) conditions (Silvestri, 2002c).

### 2.7.5 Forest Conservation and Cultural Resource Requirements

In accordance with the State Forest Conservation Program (COMAR 08.18.04), any project that disturbs over 40,000 sf (0.92 acres) of land must reforest 15 percent of the equivalent surface area. The Maryland Department of Natural Resources (MDNR) must approve forestation plans

before the project can break ground, and the trees must be planted within two years of project completion.

The construction of the Proposed Projects will permanently disturb approximately 50 acres (see Table 2-5). Therefore, in compliance with the obligation for forest conservation, afforestation of approximately 7 acres will be necessary. To meet this requirement, USAG has proposed afforestation plantings in other areas of Fort Detrick. Most of the afforestation plantings will be in Area B. These plantings will contribute to the growth and development of the designated forestation area.

Prior to construction activities, the Maryland Historical Trust may conduct investigations to determine if there will be an adverse impact to nearby existing designated historical sites. Some of the projects will require the consultation and approval of the State Historic Preservation Office (SHPO) because of the historical significance of some areas of Fort Detrick (see Section 4.9). Any requirements identified by the SHPO will be followed and will mitigate significant impacts to these sites.

### 2.7.6 Energy Efficient Design of New Facilities

The new facilities which are included in the Proposed Projects will be designed to be efficient from an environmental and energy consumption perspective. Green Building is required by Executive Order (EO) 12873 (*Federal Acquisition, Recycling, and Waste Prevention*, dated 20 October 1993), EO 13123 (*Greening the Government Through Efficient Energy Management*, dated June 8, 1999), and is implemented by DA through Technical Letter No. 1110-3-491 (*Sustainable Design for Military Facilities*, dated 1 May 2001). Sustainable Design is the design, construction, operation, and reuse/removal of infrastructure and buildings in an environmentally and energy efficient manner. Sustainable Design is synonymous with Green Building. The major tenet of Sustainable Design is to meet the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable Design includes efficient use of natural resources, better performing, more desirable, and more affordable infrastructure and buildings. Sustainable Design incorporates the energy efficiency concerns of the 1970s with present concerns related to damage to the natural environment; emissions of greenhouse gases and ozone depleting chemicals; use of limited material resources; management of water as a limited resource; reductions in construction, demolition and operational waste; indoor environmental quality; and occupant/worker health, productivity, and satisfaction.

### 2.7.7 Utility Requirements for Routine Operations

Utility consumption for the current Installation baseline and future Installation baseline are provided in Table 2-6 (detailed calculations are given in Appendix F). These computations sum actual utility consumption by Fort Detrick (FY 02) with estimated utility consumption by Approved Projects to provide a new estimated utility consumption baseline.

No net increase in Installation utility consumption is anticipated from the Proposed Projects. As part of the Proposed Action, 23 energy inefficient buildings (approximately 152,000 gsf) (see Table 2-3) will be demolished and replaced by four energy efficient buildings (approximately 169,000 gsf). It is assumed that the demolition of 152,000 gsf of energy inefficient buildings and subsequent construction and operation of 169,000 gsf of energy efficient buildings will have a negligible net impact on the estimates of utility consumption baseline and potential future utility consumption (see Section 2.7.7). Other projects which are part of the Proposed Action will not

**Table 2-4. Projected Impervious Surface Area for Construction Projects.**

| PROJECTS | TOTAL IMPERVIOUS AREA SQUARE FEET[1] (ACRES) | PARKING AND OTHER IMPERVIOUS AREAS SQUARE FEET (ACRES) |
|---|---|---|
| 6MLMC Company Operations Facility | 26,613 (0.61) | 10,000 (0.23) |
| AF | 13,000 (0.30) | N/A[2] |
| Allegheny Substation | 211,266 (4.85) | 211,266 (4.85) |
| Building 1520 Renovation | 239,580 (5.50) | N/A[2] |
| Commissary | 135,907 (3.12) | 101,697 (2.33) |
| Dining Facility | 10,250 (0.24) | 8,750 (0.20) |
| Fire Station Renovation/Expansion | 5,760 (0.13) | N/A[2] |
| Jogging Track Relocation | 27,000 (0.62) | 27,000 (0.62) |
| PX | 161,172 (3.70) | 136,172 (3.13) |
| Substation (adjacent to USAMRIID) Expansion | 3,780 (0.09) | 0 |
| UEPH II (3 Buildings) | 77,162 (1.77) | 58,344 (1.34) |
| **SUBTOTAL APPROVED PROJECTS** | **911,490 (20.92)** | **553,229 (12.70)** |
| BioMedical Research Campus (roads, utilities) | 231,000 (5.30) | 231,000 (5.30) |
| Building 1686 (SATCON) Replacement | 34,200 (0.79) | 15,500 (0.36) |
| Child Development Center | 49,213 (1.13) | 35,284 (0.81) |
| Community Park | 196,600 (4.51) | 195,000 (4.48) |
| Main Gate Reroute | 195,000 (4.48) | 195,000 (4.48) |
| MedLog Building Construction | 102,875 (2.36) | 77,875 (1.79) |
| Nallin Farm Recreation Park | 15,000 (0.34) | 15,000 (0.34) |
| Parking Areas:<br>Barracks<br>HOT Dome<br>RV Parking Lot | <br>40,000 (0.92)<br>20,000 (0.46)<br>20,000 (0.46) | <br>40,000 (0.92)<br>20,000 (0.46)<br>20,000 (0.46) |
| USMRMC Headquarters Building Construction | 51,250 (1.18) | 31,250 (0.72) |
| Vehicle Inspection Station | 115,000 (2.64) | 112,500 (2.58) |
| **SUBTOTAL PROPOSED PROJECTS** | **1,070,138 (24.57)** | **988,409 (22.69)** |
| NIAID IRF | 127,950 (2.94) | 52,950 (1.22) |
| RCI Housing | 720,000 (16.53) | 540,000 (12.40) |
| **SUBTOTAL CONCURRENT PROJECTS** | **847,950 (19.47)** | **592,950 (13.61)** |
| **TOTAL IMPERVIOUS SURFACE AREAS** | **2,829,578 (64.96)** | **2,134,588 (49.00)** |

[1] Includes only building or structure footprints.

[2] N/A = no parking or other impervious surface area is associated with project.

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**Table 2-5. Projected Permanent Land Disturbance for Construction Projects.**

| PROJECTS | SQUARE FEET | ACRES | FORESTATION REQUIREMENT (ACRES) |
|---|---|---|---|
| 6MLMC Company Operations Facility | 65,625 | 1.51 | 0.23 |
| AF | 30,000 | 0.69 | N/A[1] |
| Allegheny Substation | 104,544 | 2.40 | 0.36 |
| Building 1520 Renovation | 239,580 | 5.50 | 0.83 |
| Commissary | 248,292 | 5.70 | 0.86 |
| Dining Facility | 75,075 | 1.72 | 0.26 |
| Fire Station Renovation/Expansion | 5,760 | 0.13 | N/A[1] |
| Jogging Track Relocation | 132,532 | 3.04 | 0.46 |
| PX | 291,852 | 6.70 | 1.01 |
| Substation (adjacent to USAMRIID) Expansion | 3,780 | 0.09 | N/A[1] |
| UEPH II | 350,000 | 8.03 | 1.21 |
| **SUBTOTAL APPROVED PROJECTS** | **1,547,040** | **35.52** | **5.22** |
| BioMedical Research Campus (roads, utilities) | 308,000 | 7.07 | 1.06 |
| Building 1686 (SATCON) Replacement | 65,000 | 1.49 | N/A[1] |
| Child Development Center | 82,928 | 1.90 | 0.29 |
| Community Park | 663,500 | 15.23 | 2.28 |
| Main Gate Reroute | 253,500 | 5.82 | 0.87 |
| MedLog Building Construction | 182,000 | 4.18 | 0.63 |
| Nallin Farm Recreation Park | 245,000 | 5.62 | 0.84 |
| Parking Areas:<br>Barracks<br>HOT Dome<br>RV Parking Lot | <br>40,000<br>20,000<br>20,000 | <br>0.92<br>0.46<br>0.46 | <br>0.14<br>N/A[1]<br>N/A[1] |
| USMRMC Headquarters Building Construction | 96,250 | 2.21 | 0.33 |
| Vehicle Inspection Station | 187,500 | 4.30 | 0.65 |
| **SUBTOTAL PROPOSED PROJECTS** | **2,163,678** | **49.67** | **7.09** |
| NIAID IRF | 133,550 | 3.07 | 0.46 |
| RCI Housing | 2,657,160 | 61.00 | 9.15 |
| **SUBTOTAL CONCURRENT PROJECTS** | **2,790,710** | **64.07** | **9.61** |
| **TOTAL PERMANENT LAND DISTURBANCE** | **6,501,428** | **149.26** | **21.92** |

[1] N/A = forestation is not required because area disturbed is under 40,000 sf.

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**Table 2-6. Existing and Projected Annual Utility Requirements and Waste Streams for Fort Detrick.**

| | INSTALLATION BASELINE FY 02 | | | APPROVED PROJECTS SUBTOTAL | INSTALLATION FUTURE BASELINE ESTIMATE[2] | PROPOSED PROJECTS[3] |
|---|---|---|---|---|---|---|
| | USAG[1] | NCI | TOTAL | | | |
| **Electricity** | | | | | | |
| kWh/yr | 77,663,525 | 61,659,951 | **139,323,476** | **5,760,602** | **145,084,078** | **0** |
| **Water** | | | | | | |
| gallons/yr | 354,367,941 | 119,196,059 | **473,564,000** | **40,187,807** | **513,751,704** | **0** |
| **Wastewater** | | | | | | |
| gallons/yr | | | | | | |
| sanitary | 194,064,419 | 65,265,581 | **259,330,000** | **36,198,367** | **295,528,367** | **0** |
| potentially contaminated | 11,847,200 | 0 | **11,847,200** | **982,000** | **12,829,200** | **0** |
| **Natural Gas[4]** | | | | | | |
| ccf/yr | 5,655,120 | 0 | **5,655,120** | **128,625** | **5,783,745** | **0** |
| **Steam** | | | | | | |
| pounds/yr | 250,001,000 | 309,911,000 | **559,912,000** | **466,000** | **560,378,000** | **0** |
| **Refuse** | | | | | | |
| solid (lbs/yr) | 6,498,117 | 2,189,939 | **8,688,056** | **264,071** | **8,952,127** | **0** |
| medical (lbs/yr) | 588,226 | 1,457,119 | **1,623,748[5]** | **5,785** | **1,629,533** | **0** |
| radioactive (liters/yr) | 403 | N/A[6] | **403** | **0** | **403** | **0** |
| Resource Conservation and Recovery Act (RCRA) hazardous (lbs/yr) | 23,083 | N/A[6] | **23,083** | **108** | **23,191** | **0** |

[1] Includes all of Fort Detrick tenants except NCI.

[2] See Appendix F

[3] See Section 2.7.7

[4] The majority of natural gas consumed by Fort Detrick is used to operate the boilers. Therefore, natural gas consumption is assumed proportional to steam production.

[5] Value is average of FY 00, FY 01, and FY 02. Disposal of material from Federal facilities potentially contaminated with anthrax in FY 02 overestimates baseline.

[6] NCI-Frederick disposes of these wastes though contractors, not through USAG.

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inherently consume significant utility capacity once operational. Implementation of the Proposed Action will not result in an increase in the workforce or residential population of Fort Detrick. Therefore, no net increase in utility consumption is assumed for the Proposed Projects.

Estimated utility consumption for Concurrent Projects and a Conceptual Project is also provided in Appendix F to identify potential future utility requirements, although these projects are not part of the Proposed Action.

#### *2.7.7.1 Water Supply*

The capacity of the Water Treatment Plant (WTP) is 4.25 million gallons per day (mgd), however, only 0.8 - 2.6 mgd are currently consumed (Grams, 2003b). In FY 02, Fort Detrick's WTP produced approximately 473 million gallons of water. Approximately 3.1 mgd can be pumped from the WTP to the Installation using the current water pressure (Potter, 2003). The quality of the drinking water supply provided by the Installation meets or exceeds all Federal, state (COMAR 26.04.01), and DA criteria (Grams, 2002). In FY 02, the total water consumed was 473,564,000 gal.

#### *2.7.7.2 Electricity*

Due to the energy-intense nature of research activities conducted at Fort Detrick, the demand for electricity at the Installation is high. In FY 02, total electrical consumption for the entire Installation was 139,323,476 kilowatt hours (kWh). New energy efficient equipment will be installed in the proposed buildings to minimize energy utilization on the Installation.

#### *2.7.7.3 Natural Gas*

Natural gas use at Fort Detrick is primarily by the boiler plant and incinerators. In FY 02, total natural gas consumption for the entire Installation was 5,655,120 hundred cubic feet (ccf).

#### *2.7.7.4 Steam*

Existing boilers at Building 190 on Area A of Fort Detrick produce most of the steam for sterilization purposes in Fort Detrick laboratories and secondarily for heating. Utility steam is distributed throughout the Installation via under- and above-ground connections. In FY 02 the Installation produced 559,912,000 pounds (lbs)/yr of steam.

### 2.7.8 Waste Stream Management and Pollution Prevention

Waste streams for the current Installation baseline and future Installation baseline are provided in Table 2-6 (detailed calculations are given in Appendix F). These computations sum actual waste streams by Fort Detrick (FY 02) with estimated waste streams from the Approved Projects to provide a new estimated utility consumption baseline.

No net increase in waste streams is anticipated from the Proposed Projects. Implementation of the Proposed Action is not expected to result in qualitatively or quantitatively different waste streams than the new estimated Installation baseline. The Proposed Action does not include increases to the work force or the residents of Fort Detrick. The nature of activities currently conducted at Fort Detrick will remain the same under the Proposed Action.

Estimates of potential future waste stream volumes for the Concurrent Projects and a Conceptual Project are provided in Appendix F to identify potential future waste stream disposal requirements, although these projects are not part of the Proposed Action.

In compliance with DoD and Army policy and guidance, as set forth in Department of Defense Directive (DODD) 4715.4 Pollution Prevention (6 July 1998) and DA PAM 200-1 Environmental Protection and Enhancement (17 January 2002), Fort Detrick has established a pollution prevention (P2) plan (U.S. Army Center for Health Promotion and Preventive Medicine [USACHPPM], 2001c). The Fort Detrick P2 program objectives include more efficient use of raw materials and energy, in addition to reduction or elimination of wastes and emissions of toxic materials to the environment. This plan addresses the Installation's current situation and presents P2 opportunities for several specific waste streams where reduction is feasible through material substitution or recycling. Fort Detrick's P2 Plan also entails implementation of a hazardous material tracking system and implementation of P2 practices in the research laboratories.

#### *2.7.8.1 Wastewater*

Sanitary wastewater generated by the Proposed Projects will be transported through the sanitary sewer system to be treated at the Fort Detrick Wastewater Treatment Plant (WWTP) in Area C. Fort Detrick wastewater treatment facilities provide primary and secondary treatment to wastewater received before discharge into the Monocacy River. The MDE regulates the WWTP under the NPDES program. The Fort Detrick WWTP NPDES permit number is MD0020877 (State Discharge Permit Number - 97-DP-2527). The WWTP operates at 40 to 50 percent of its capacity of 2.0 million gallons per day (mgd). The average daily amount of sewage processed at the Fort Detrick WWTP is 750,000 gallons to one million gallons. In FY 02 the Installation generated 271,177,200 gallons of wastewater.

In accordance with Centers for Disease Control and Prevention (CDC)/NIH guidelines (CDC/NIH, 1999), all waste contaminated or potentially contaminated with infectious material must be rendered noninfectious before disposal. This decontamination is accomplished by a combination of chemical and physical (autoclave) methods. Waste originating from BSL-4 laboratories must be decontaminated twice.

#### *2.7.8.2 Solid Waste*

The municipal solid waste (i.e., excluding wastes from biomedical research or hazardous wastes) generated by the proposed facilities will be sorted by the generators before collection by the Directorate of Installation Services (DIS) of the USAG for incineration and disposal. Waste materials that cannot be recycled are transported to the Incinerator Plant (Building 393) for processing in one of the two existing municipal waste incinerator units. Residual ash from the incinerators is transported by DIS personnel to the Fort Detrick Municipal Landfill located in Area B of the Installation for ultimate disposal. The overall solid waste operation holds MDE Refuse Disposal Permit 2000-WIN-0341-0. In FY 02, the entire Installation generated 8,688,056 lbs of municipal solid waste.

#### *2.7.8.3 Medical Waste*

Medical waste is regulated by Federal, state, and local regulations to protect transporters and the public from potential hazards associated with potential contaminants. Medical waste at Fort

Detrick is incinerated in accordance with CDC/NIH guidelines (CDC/NIH, 1999). Medical waste, predominantly consisting of sharps (needles, scalpels, glass), animal waste and bedding, generated at Fort Detrick laboratories is specially bagged and incinerated. All medical waste is incinerated in the Special Medical Waste Incinerators, which are operated under MDE Air Management Administration Temporary Permit(s) to Operate No. 10-000131-2-0066 and No. 10-000131-2-0067 and Refuse Disposal Permit 2000-WIN-0341. In FY 02 the entire Installation produced 2,045,345 lbs of medical waste.

#### *2.7.8.4 Hazardous Waste*

All generators of hazardous waste on Fort Detrick comply with all state and local regulations and policies. Area A of Fort Detrick currently generated 23,083 lbs of RCRA hazardous wastes in FY 02.

#### *2.7.8.5 Radiological Waste*

All material is packaged in accordance with Nuclear Regulatory Commission (NRC), U.S. Department of Transportation, Federal, state, and disposal facility requirements. In FY 02 Fort Detrick generated 403 liters of radioactive wastes.

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